SCIENCE.

FRIDAY, JULY 25, 1884.

COMMENT AND CRITICISM.

THE long uncertainty has been ended sooner than could reasonably have been expected. Greely and the remnant of his party have been rescued from imminent death. The energy, boldness, and judgment of our naval officers have triumphed over all obstacles; and, in spite of inexperience in such work, complete success has been attained. With the enfeebled survivors were rescued the complete records of the work at the station, such instruments as were originally taken from Lady Franklin Bay, and the mortal remains of those who had succumbed, except a few who had become the prey of winds and currents.

The party accomplished all that they were sent to do, and much more, without loss of life, serious accident or disease, to any of its members. Making a successful retreat with records, instruments, and all hands, to a point where a sufficient store to have carried them through the winter should have been in waiting for them, and where it is even probable a vessel might have safely rescued them in the autumn of 1883, it was their fate to suffer and die from causes due largely to the ignorance and incompetency of others. Fortunately it is not our duty to allot the blame, or specify the acts, or failures to act, which brought about the disaster. It will, without doubt, form the subject of official inquiry, to which it may safely be left. Meanwhile the victims of stupidity are charged by the great mass of sympathizers to the account of arctic exploration.

In this journal (No. 60) we stated that it was probable that Greely started southward from Lady Franklin Bay in July or August, 1883; that the members of the party were living and in good health at that time; that a successful retreat to Cape Sabine would depend upon the opportunity of using their boats; that it was impossible for them to carry more than five or six months' provisions south with them; that it did not seem likely that there were provisions enough at Cape Sabine to carry them through the winter; that they would probably be found at Cape Sabine when navigation opened in 1884; that the prospect of the party reaching the eastern side of Smith Sound was almost unworthy of serious consideration; and that the programme which would waste the time of the relief-ships on the east side of Smith Sound was open to severe criticism. The remarkable manner in which these conclusions (which merely voiced the general opinion of accessible arctic experts) have been justified by the facts is worthy the consideration of those who consider arctic travel a matter of luck rather than of study and experience.

The geographical results of Greely's work are detailed elsewhere in this issue. The most interesting to geographers are the details in regard to the form of the western part of Grinnell Land and the physical features of that area, and the discovery of abundant game and recent Eskimo traces in its northern part. The additions to the shore-line of North Greenland are also very welcome, though the practical proof of the insularity of that continent had been already given by Bessels in his discussion of the Greenland tides. The reaching by Lockwood and Brainard of the highest northern latitude yet attained appeals strongly to American sentiment. The story of heroic endeavor, and patient, loyal endurance, will be heard with kindling hearts and filling eyes by the brave and enterprising of all nations, while universal sympathy goes forth to those whose best and dearest heroically met their fate, as their last faint breath went out beneath the cold gray arctic sky.

WHEN the announcements were made of the honorary degrees conferred at the tercentenary celebration of the University of Edinburgh, some surprise was felt that American men of science appeared to be forgotten, while American physicians and theologians were selected with obvious discrimination for their academic distinctions. It is now stated that the authorities at Edinburgh intimated to several Americans devoted to science, that the university would confer upon them the degree of doctor of laws if they would come and receive it, and that, in case of their non-attendance this year, they might be admitted to the honor if present on some future occasion. The list of men thus chosen may not be authentic, and we shall therefore refrain from reprinting it; but, as given in the newspapers, it includes, among others, a geologist and zoölogist, a botanist, an astronomer, and a philologist, every one of whom would be acknowledged in this country as a worthy representative of American science.

THERE is fine opportunity to make the coming electric exhibition in Philadelphia a public educator as well as a brilliant display by giving due care to the explanation of the different groups of exhibits. Only a very small share of the visitors to such exhibitions understand what they see; but by far the greater number would gladly learn more than they know if the way were open. The untaught majority of the visitors may wonder and admire, but they really learn very little. Their curiosity is excited, but their reason is not satisfied. Printed explanations are seldom given: verbal explanations are often too technical to be of much value, even when the exhibiters can be found, and are willing to tell their story for the hundredth time.

This might all be changed, if an extended series of well-considered explanatory cards were composed with the special object of reaching the most elementary inquiry, and arranged in such succession that the visitors who follow around the aisles in proper order should read a concise statement of the elements essential to the various contrivances in the bewildering display. Take, for example, the batteries, which will surely be exhibited in large variety. At the beginning of this class of exhibits, there should be a large card on which should appear some such statement as the following: "The essential elements of a battery are so and so; these essentials are reached in various ways, thus and thus and thus." Then in further explanation of the different kinds of batteries, which should be classified as rationally and as distinctly as possible, the advantages claimed for each class could be appropriately defined, as cheapness, durability, intensity, constancy, etc.; or the special object in view might be stated, and the peculiar means to this end briefly set forth.

There would be a double gain accomplished by such a method. The direct gain would be a distinctly better understanding of the exhibition among the many intelligent visitors who were not especially informed on electrical matters. The indirect gain would be a step in general education, in the recognition of the relation between the essentials of an apparatus and the contrivances by which they are attained. For most persons the contrivances are of small importance: they cannot be remembered, except in a few cases where peculiar reasons may give them special interest. But the essentials, the principles of construction freed from the details, are of the greatest service to all. The time and work required for the preparation of such guide-cards would be great, but the public would consider them well expended.

LETTERS TO THE EDITOR.

Cretaceous phosphates in Alabama.

IN a previous letter I announced the occurrence of phosphates in the lower beds of the rotten limestone of the cretaceous formation of Alabama. I have since discovered that they are by no means confined to this horizon.

Immediately overlying the rotten limestone, and forming the uppermost strata of the cretaceous formation, are beds of marls and clays, alternating with hard, crystalline, sandy limestones, usually assigned to the Ripley group of Professor Hilgard. Specimens examined from many localities show that these beds in Alabama, from Livingston in Sumter county, eastward nearly to the Georgia line, are very generally phosphatic.